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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/512,016

06/27/2005

Hans-Joachim Barth

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10/28/2008

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EXAMINER

VELASQUEZ, VANESSA T

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

10/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/512,016	Applicant(s) BARTH ET AL.	
	Examiner Vanessa Velasquez	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

Claims 12-22 are presented for examination.

Status of Previous Objections

The objection to claim 13 is withdrawn in view of Applicant's amendment to the claim.

The objection to claim 18 is maintained because Applicant has not amended the claim to specify the unit of measure. It is emphasized that percent impurity could be weight percent, atomic percent, molar percent, volume percent, etc. The Examiner will continue to interpret the impurity level to be in percent by weight for the purposes of examination.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 12, 15, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwuttke et al. (US 3,585,088). The claims remain rejected on the same grounds presented in the Office action dated January 8, 2008.

Regarding the amended portion of claim 12, Schwuttke et al. do not explicitly teach the motion of sweeping the laser beam across the deposited metal material to

Art Unit: 1793

produce a moving thermal region; however, this type of movement would clearly be an obvious maneuver by one of ordinary skill in the art desiring to recrystallize an entire area of metal. The desire to recrystallize an entire area of a stripe is implied by Schwuttke et al., who state that it is "desirable in the manufacture of integrated circuit devices to recrystallize the metal stripes" (col. 3, lines 44-48). Thus, in the case that the laser beam covers an area smaller than the stripe itself, it would be obvious to one of ordinary skill in the art to scan the laser over the entire metal stripe in order to recrystallize the entire metal stripe. Furthermore, the skilled artisan would be motivated to recrystallize the entire stripe because in order to improve the ability of electrons to travel through the grain (col. 3, lines 44-48). With regard to the direction the laser is moved, in order to recrystallize an area that is larger than the laser source, the laser would necessarily have to be moved in an (arbitrarily) chosen direction. One of ordinary skill in the art, for instance, could move the laser along the length of the stripe because it would be fast and continuous (i.e., no need to interrupt movement of the beam).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwuttke et al. (US 3,585,088) in view of Yabe (US 5,405,804). The claims remain rejected on the same grounds presented in the Office action dated January 8, 2008.

Claims 13 and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwuttke et al. (US 3,585,088) in view of Shimizu et al. (US 6,242,808 B1). The

Art Unit: 1793

claims remain rejected on the same grounds presented in the Office action dated January 8, 2008.

Response to Arguments

Applicant's arguments filed July 7, 2008 have been fully considered but they are not persuasive.

First, Applicant argues that reference by Schwuttke et al. is deficient with regard to the movement of the laser. This limitation is addressed in the above paragraph pertaining to claim 12 under 35 U.S.C. 103(a).

Second, Applicant argues that the mechanisms to induce recrystallization in Schwuttke et al. are different from the claimed invention. Particularly, Applicant asserts that Schwuttke et al. disclaims the use of thermal energy. The Examiner respectfully disagrees. While Schwuttke et al. believe that the mechanism for recrystallization is via shock wave, Schwuttke et al. also acknowledge that their understanding is not complete (col. 4, lines 30-34). In the following paragraph, Schwuttke et al. recognize that "there is some inherent heating of the film and subsequent heating of the substrate by conduction" (col. 4, lines 35-49). The avoidance of heat in Schwuttke et al. appears to refer to temperatures that would cause melting or vaporization of the film (col. 4, lines 43-45), not to annealing temperatures that would occur when the temperature is below the melting temperature.

Conclusion

Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vanessa Velasquez whose telephone number is (571)270-3587. The examiner can normally be reached on Monday-Friday 8:30 AM-6:00 PM ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached at 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1793

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art
Unit 1793

/Vanessa Velasquez/
Examiner, Art Unit 1793